WATER USE EFFICIENCY
WORK GROUP STATUS

E-013422

Water Use Efficiency Work Group
- Status Report -

INTRODUCTION

The CALFED Bay-Delta Program will develop a long-term comprehensive plan to restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Three alternatives to accomplish this mission will be refined and analyzed during Phase II of the Program. These alternatives will share a "common program" of measures to ensure that California's water supplies are used efficiently. To address policy issues related to the water use efficiency common program, a BDAC Work Group has been appointed.

Purpose

The Water Use Efficiency Work Group was established to address policy issues related to efficient water use. The Work Group will identify issues, gather information, and develop options and recommendations for presentation to BDAC during CALFED's refinement and analysis of the water use efficiency common program.

Categories to be considered by the Work Group include urban conservation, agricultural conservation, and water recycling. A common program for water use efficiency would apply the same institutional approach to water use efficiency in each alternative, however, the level of implementation could vary from one alternative to the next. Variation would be dependent on other elements of the alternative, including new conveyance, new storage, or reoperation of existing conveyance and storage.

Land fallowing, temporary or permanent, was initially considered as one of the categories to be considered within this Work Group, but has been removed from consideration as a demand management category. Environmental water use efficiency has been raised as an important issue, and will be addressed by CALFED. See *Major Issues* below.

Key policy questions that may be addressed by the Work Group include, but are not limited to, the following:

- What general approach is most appropriate to implement water use efficiency measures: regulatory, market, or combination?

- How can water use efficiency be structured to complement other water supply components of each alternative?

- What is the appropriate level of effort for water use efficiency measures in each alternative, and how should the level be set?

- Should water use efficiency measures be specified in alternatives, or should a target level of reduced demand be specified and the selection of measures be left to water users?

The Work Group will produce summaries of these and other issues to promote better understanding and consideration by the full BDAC.

Membership

The Work Group consists of BDAC members who were selected by the BDAC chair or who requested to serve, a specified CALFED staff member to serve as coordinator, and invited stakeholder and CALFED agency participants. These participants may change depending on the issues and subjects being discussed. All BDAC members are welcome to attend any or all of the Work Group meetings whether they are appointed or not. All meetings are open to the public and are publicly noticed. The following are BDAC members of the Water Use Efficiency Work Group:

Judith Redmond, Chair	Jack Foley
Roberta Borgonovo	Richard Izmirian
Don Bransford	Mary Selkirk
Alex Hildebrand	Mike Stearns

Invited participants have included:

Scott Akin	Susan Munves
Byron Buck	Betsy Reifsnider
Ronnie Cohen	Palma Risler
Ed Craddock	David Fullerton
Brad Shinn	Bill Jacoby

Process

For each category of water use efficiency, the Work Group will examine policy issues and offer advice on institutional approaches that will be most likely to produce optimum levels of implementation of efficiency measures. The recommended approach may be different for each

category. An initial meeting will be held for each category, devoted to the discussion of objectives, policy issues, stakeholder concerns, and potential barriers. Following the initial meeting, the CALFED staff and consultants will develop a draft paper discussing objectives and providing a list of tools or actions that could be used, individually or in combination, to structure an approach. This draft proposal will be the subject of discussion at one or two subsequent Work Group meetings. Next, a draft approach will be prepared by CALFED staff for each category. The approach will be a combination of tools designed to meet objectives and diverse stakeholder interest. Draft approaches will be presented for discussion at Work Group meetings to provide an opportunity for input or potential refinements to the staff proposal. Refined approaches may be the topic of public workshops, and will be forwarded to the full Bay-Delta Advisory Council for comment and to the CALFED agencies for approval.

SUMMARY OF PROGRESS TO DATE

The Work Group has met a total of four times to date. During these meetings and the periods between the meetings, strategies were discussed, debated, and drafted to address urban and agricultural water use efficiency improvements. The process being followed first develops objectives, then lists an assortment of potential tools to meet the objectives, and finally structures an approach using a combination of the tools listed. To date, draft work products include objectives and tools for both urban and agricultural water use efficiency. Approaches are being prepared.

The following objectives were seen as necessary to achieve the desired results of the water use efficiency common program. These objectives vary depending on the targeted sector, although some objectives were felt to be common to both sectors:

Objectives Common to Urban and Agricultural Water Use Efficiency

- Emphasize market mechanisms over regulatory mechanisms
- Preserve local flexibility
- Ensure a strong water use efficiency component in the Bay-Delta solution
- Remove disincentives to conservation and efficiency improvements
- Offer help in the planning and financing of conservation and water use efficiency improvements

Urban objectives

- Include the strengths and benefits of the California Urban Water Conservation Coalition (CUWCC) and the urban Memorandum of Understanding (MOU)

- Provide some type of assurance that a high "floor" level of conservation implementation will occur
- Achieve a higher level of Best Management Practice (BMP) implementation, and by more agencies
- Review implementation of landscape water conservation BMPs
- Help agencies understand the value of conservation

Agricultural objectives

- Build on the progress and achievements of the agricultural MOU (AB 3616)
- Provide adequate assurance that agricultural water supplies will be used efficiently
- Improve water management to achieve multiple benefits
- Encourage water use efficiency at all levels, from field to valley-wide

To meet these objectives, many different actions, programs, and institutional changes, collectively referred to as "tools", were developed and presented to the work group. It is from these tools that approaches to water use efficiency are being developed. The following table provides a list of the tools identified that may be used to develop approaches for water efficiency improvements in the urban and agricultural sectors (water recycling has not been discussed by the Work Group as of this report):

For more detailed information regarding the development of objectives and tools, the revised draft, *Urban Conservation Strategy - Objectives and Mechanisms*, and first draft *Agricultural Water Use Efficiency Strategy - Objectives and Tools*, are included as attachments to this document.

The draft approaches will be the subject of a public workshop, tentatively set for November, before approval by CALFED.

Tools	Urban Sector	Agricultural Sector
1. Comprehensive water transfer rules		✔
2. Water rights assurances		✔
3. Conditions for transfer of marketed water		✔
4. Structured water transfer tax		✔
5. State Drought Water Bank conditions	✔	✔
6. Water management planning		✔
7. Conservation certification process	✔	
8. Technical and planning assistance	✔	✔
9. Water user diversion fee	✔	✔
10. Non-compliance fee	✔	✔
11. Surface water pricing		✔
12. Incentive payments		✔
13. Low interest loans and other financing assistance	✔	✔
14. Tax credits and rebate programs	✔	✔
15. Bond pooling	✔	✔
16. Contract language revisions		✔
17. CVP/SWP contract provisions	✔	✔
18. Water rights permit conditions	✔	✔
19. Calif. Urban Water Conservation Council	✔	
20. Legislative changes to State Water Code	✔	
21. Water shortage continency planning	✔	

MAJOR ISSUES

Water use efficiency can be described as striving to obtain the greatest benefit from a unit of water. However, what is seen as a benefit can vary according to the user's perspective. This difference in perspective needs to be well understood prior to moving forward on workable approaches. The Work Group recognizes this and is attempting to keep a broader focus during the development of approaches. However, as the Work Group meets and discusses objectives, tools, and approaches, several issues have surfaced, primarily as a result of differences in perspective. Probably of greatest concern was the issue of land fallowing and the belief of some that such actions do not conserve water, but rather allow for the reallocation of water supplies away from agriculture. Several other issues have been identified during the first four meetings of the Work Group. The following provides an overview of these issues and how the Work Group has dealt or may deal with them.

Land Fallowing

The approach to land retirement in early CALFED alternatives raised more concerns than any other single aspect during scoping. These alternatives included both temporary fallowing during periods of shortage, and permanent land retirement. Permanent retirement was included in the alternatives as a measure to improve water quality by reducing discharges from drainage problem lands, and as a demand management measure. Many stakeholders have emphasized that land retirement is not a water use efficiency measure. It does reduce water demand in the agricultural sector, but carries with it several disadvantages. In response to scoping comments, discussions with stakeholders and members of BDAC, and further evaluation, CALFED will not consider permanent land retirement as a demand management measure. Land retirement will be included as a water quality improvement measure and as a part of habitat restoration programs (e.g., set-back levees, meander belts).

It is assumed that temporary fallowing and crop modifications will occur as a result of landowners entering into water transfer agreements and as a result of other events that make such actions cost-effective for the landowner. Flexibility to make use of land fallowing as a management tool by local water districts or landowners will be a necessary part of future agricultural operations. Further discussion within the Work Group on this issue may be necessary to ensure that all interests have had an opportunity to voice their concerns or comments.

Conservation vs. Efficiency

Use of the term "conservation" became an issue, primarily with agricultural stakeholders, because of the perception that "conservation" measures would result in reduced water deliveries

to agriculture. Sacramento Valley agriculture argues that implementation of "conservation" measures does not necessarily result in water savings for the system as a whole and can have adverse impacts on downstream users, including the environment. To better capture the notion of improving the management and control of water use for multiple benefits the Work Group has adopted the term "water use efficiency" and is using a broadly defined concept of efficiency when discussing agricultural water use improvements. Use of the term conservation is more suitable when discussing urban water use improvements and continues to be used to refer to actions such as urban BMPs.

Use of Saved or Conserved Water

Discussion of the potential reallocation of saved water became an issue with several Work Group members and participants. Some felt that improvement in efficiency and conservation measures would be implemented for the sole purpose of reallocating water from one user to another. Some were strongly against the idea of reallocating water from agriculture to the urban sector, especially, when some in agriculture are water deficient. Others believe that saved or conserved water should be made available to other users, whether out-of-basin agriculture, the urban sector, or the environment. From CALFED's perspective, the recipient of saved water is not the primary issue. Assurance that current water supplies *are used efficiently* is of greater importance. The potential expansion of water transfer markets would influence the destination of saved water. It is not anticipated that the Work Group will spend additional time on this matter. (See also *Third Party Impacts* below.)

Local Flexibility

Local flexibility is a key concern of urban and agricultural water agencies and users. These groups do not want to have implementation of particular BMPs or EWMPs required of them, but instead want the flexibility to individually determine what measures are technically feasible and cost-effective. The challenge will be to devise methods that generate consistent analysis from one agency to the next when determining cost-effectiveness. Without uniform analysis or guidelines, there is concern that different agencies may conduct analysis in different ways, yielding inconsistent results. This may result in failure to identify and implement measures that would be cost-effective. The Work Group has made the preservation of local flexibility a key objective, and is examining tools that would require implementation of technically feasible, cost-effective measures.

Voluntary vs. Mandatory

Voluntary versus mandatory represent two methods of achieving a similar goal. Generally, environmental stakeholders favor mandatory requirements for improvements in water use

efficiency because such requirements carry a high level of assurance that the goal will be reached. However, water users do not look with favor upon forced regulation because of the limitations it can place on local flexibility. Voluntary measures provide the desired flexibility. The urban MOU is an example of a voluntary method that provides local agencies with flexibility, however, it has not resulted in the desired goals of the environmental signatories. It is examples such as this that strengthen desire for regulation. Satisfying the concerns of all stakeholders and finding consensus on an approach will be challenging. To satisfy the challenge, the Work Group will try to structure conservation and efficiency approaches using combinations of voluntary and mandatory measures. For instance, agricultural users may be required to prepare Water Management Plans and may be asked to implement measures determined cost-effective. At the same time, comprehensive rules for water transfers may be developed to provide mechanisms through which water users can market water "saved" through efficiency improvements.

Water Transfer Markets

There are many concerns surrounding the concept of water transfer markets. Concerns range from impacts to third parties, to reductions in the ability to produce food and fiber for a growing population, to potential inequities in the distribution of benefit from more open markets. Expansion of water transfer markets is being considered by the Work Group as one method to create incentives for increased water use efficiency, primarily within the agricultural sector. It is recognized that making long-term transfers a significant part of the water supply management picture could reduce the total acreage in production. It could also have negative impacts upon local economies and habitat areas that are dependent on the flow of water to and from agriculture.

To avoid impacts and mitigate their effects, the Work Group is considering criteria for what constitutes transferable water, emphasize water rights assurances, and develop transfer taxes that provide funding directly to local economies. In addition, there would be a distinction made between in-basin and out-of-basin transfers.

Third Party Impacts

Third party impacts are direct and indirect economic, social, or environmental effects of a water transfer to a party other than the seller or buyer. Rural towns and communities, especially in regions upstream of the Delta, are concerned with the potential impact that could occur from an expanded water transfer market. Undoubtedly, if land is taken out of production to provide marketable water, there will be negative impacts to employees, suppliers, and others that play a role in the agricultural production process. Rural governments are concerned with the added burden this can create on social programs as well as the reduced revenue in taxes and other

charges. A CALFED approach to improved efficiency that includes expansion of water transfers must address these concerns. To be successful, a transfer market must minimize and mitigate third party impacts. The benefits of a market must out-weigh the potential impacts to local economies.

A second issue related to third party impacts comes from Sacramento Valley agricultural interests. They are concerned that water use efficiency improvements that they may be asked to make will adversely affect wildlife habitat and riparian corridors that exist along the their delivery canals and drainage courses. This is especially true, it is believed, if the "saved" water is transported out-of-basin. The Work Group is considering this concern and may address it by suggesting environmental aspects in cost-effectiveness evaluations, placing environmental safeguard conditions on transfers, or including mitigation in the event of out-of-basin transfer impacts.

Another third party impact issue is the potential of conservation and efficiency measures to affect groundwater resources. Water users that primarily rely on groundwater and do not have surface water supplies, are concerned that conservation measures will decrease the amount of recharge that occurs via over-application of irrigation water, thus causing reductions in groundwater levels. In addition, concern has been expressed over the potential of current surface water users changing to groundwater sources when they market their surface supplies. To address these concerns, the Work Group might recommend defining the type of water that can be transferred out-of-basin and prohibiting or restricting groundwater substitution. In addition, the Work Group may examine methods to increase the implementation of conjunctive use programs.

Environmental Water Use Efficiency

A consistent and complete approach to water use efficiency should consider the use of all diverted water, including not only urban and agricultural supplies, but water used for environmental purposes as well. There is an ongoing effort to develop Best Management Practices and water conservation planning guidance for refuge managers. CALFED staff will gather information on this effort and present it to the Work Group, providing an opportunity for policy guidance.

NEXT STEPS

During its next few meetings, the Work Group will review proposed urban and agricultural water use efficiency approaches to be developed by CALFED staff, and will consider policy issues related to environmental water use efficiency and water recycling.